

18. (Original) The method of claim 12 wherein the cross-sectional shape of the short enlarged continuously tapered working length of each instrument is triangular with concave sides, triangular, square or polygonal.

19. (Canceled)

20. (Canceled).

21. (Original) The method of claim 12 wherein the shaft of each instrument between the proximal end thereof and the short enlarged continuously tapered working length thereof includes flutes and cutting edges thereon that engage a root canal when the root canal is curved.

22. (Original) The method of claim 12 wherein the shaft of each instrument between the proximal end thereof and the short enlarged continuously tapered working length thereof has an increasing diameter from the short enlarged continuously tapered working length to the proximal end.

Remarks

Request to Withdraw Finality

Prior to responding to the substantive portion of the Office Action, the Applicant respectfully requests reconsideration and withdrawal of the Finality of the Office Action.

The final action relies on published U.S. Pat. Appl. No. 2003/0017434 by Hagemann et al. (Hagemann). The Hagemann reference was not previously cited by the Examiner. The Applicant respectfully submits that the amendments to the claims did not necessitate a new search or justify new grounds for rejection. Rather, the prior amendments to the claims merely reflect information found in the originally filed claims. Specifically, claim 1 was amended by incorporation of elements from original claims 2, 4, 5-6 and 8. Specifically, original claim 4 provides for a rate of taper, claims 2, 5 and 6 provide multiple cutting edges formed by flutes and claim 8 provides a working length of no more than 3 millimeters. Similarly, the prior amendment to claim 12 incorporates elements from the previously mentioned dependent claims as well as claims 13, 15-17 and 19. Finally, original claim 12 clearly indicated the potential use of additional instruments.

The Examiner is respectfully referred to §706.07(a) of the MPEP. As noted therein:

A second or any subsequent action on the merits in any application or patent involved in reexamination proceedings should not be made final if it includes a rejection, on prior art not of record, of any claim amended to include limitations which should reasonably have been expected to be claimed. See MPEP § 904 *et seq.* For example, one would reasonably expect that a rejection under 35 U.S.C. 112 for the reason of incompleteness would be replied to by an amendment supplying the omitted element.

In view of the nature of the amendments to the claims presented in the Amendment dated July 11, 2006 and the requirements of MPEP § 706.07(a), the Applicants request withdrawal of the finality of the rejection dated October 10, 2003.

Summary of the Amendments to the Claims

Claim 1 has been amended by incorporating subject matter from claims 3 and 9. Additionally, claim 1 has been amended to indicate that the configuration of the cutting edges permits operation of the instrument in either clockwise or counter-clockwise direction. Support for this portion of the amendment to claim 1 is found in paragraphs 16-18 of the specification. Finally, claim 1 has been amended to indicate that at least one cutting edge runs from the bi-conical shape of the distal end to the upper end of the working length of the instrument. Support for this amendment to the claim is found in the original drawings.

Claim 12 has been amended to indicate that the configuration of the cutting edges permits operation of the instrument in either clockwise or counter-clockwise direction. Support for this portion of the amendment to claim 12 is found in paragraphs 16-18 of the specification. Finally, claim 12 has been amended to indicate that at least one cutting edge runs from the bi-conical shape of the distal end to the upper end of the working length of the instrument. Support for this amendment to the claim is found in the original drawings

Claims 3, 8-11, 14-15 and 19-20 have been canceled.

Objection to the Drawings

The Applicant has canceled claims 10 and 11.

Rejection of Claims

The Examiner rejected claims 1-3, 5, 7, 9, 12-14, 16, 18 and 20 under 35 U.S.C. §102(b) over Hagemann et al. (Hagemann). The Applicant respectfully traverses this rejection and requests reconsideration and withdrawal thereof.

Hagemann provides a set of root canal instruments with each instrument having a working length. Hagemann describes the tip of the disclosed instruments in paragraph 35 as having a frustum (assumed to mean “frustum”) or hemisphere configuration. Additionally, Hagemann clearly teaches an instrument set wherein only one instrument has a working surface which includes a cutting edge over the complete length of the working surface. As discussed in paragraphs 44-46, the first instrument is cutting over length 12.1; however, second and third instruments are cutting only over lengths 12.2 and 12.3, i.e. about 50% of the working surface. Finally, as indicated by the Examiner, Hagemann describes at paragraph 12 and Figs. 4, 8 the use of helical cutting edges. As known to one skilled in the art, a helical cutting edge describes the cutting edge of a standard drill bit. Thus, the Hagemann cutting edge wraps around the working portion of the instrument.

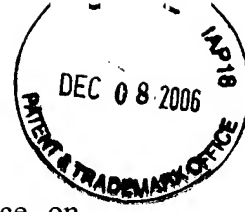
The current invention, as described in pending independent claims 1 and 12, clearly requires a continuous cutting edge running from the bi-conical shaped tip to the upper end of the work length on each instrument. Further, the cutting edges of the claimed device run parallel to the axis of each instrument. In other words the cutting edges do not wrap around the working portion of the instrument. For example, see Fig 3, sectional views A-A, B-B and C-C. Thus, by

design of the cutting edges, the current invention permits cutting of the root canal in both a clockwise and counter-clockwise direction.

Clearly, pending claims 1 and 12 contain elements that are neither taught nor suggested by Hagemann. As indicated by the Examiner, Hagemann describes a helical cutting surface in paragraph 12. A standard helical cutting edge provides a cutting surface in only one direction. For example, consider a standard right twist drill bit wherein the drill bit is designed to cut only when operated in a clockwise manner. For this reason, special left twist drill bits are used for removing broken screws and bolts. Similarly, Hagemann's Figs. 4 and 8 clearly represent cutting edges which are useful in only a single direction. In this instance when looking down on Figs. 4 and 8, the cutting direction would be counter-clockwise. Rotation of the depicted devices in a clockwise direction would not place a cutting surface in contact with the root canal. In fact, clockwise rotation of the depicted devices would likely round-off and dull the cutting edge. Thus, Hagemann does not teach or suggest an instrument wherein the cutting surface is parallel to the shaft and provides for bi-directional cutting of the root canal.

Additionally, in paragraph 35, Hagemann clearly defines the tip portion of the instruments as having a spherical or "frustrum" configuration. The drawings referenced by the Examiner do not provide sufficient detail to discern the actual configuration of the tip. Therefore, it is reasonable to rely upon the actual disclosure to provide the description. Thus, Hagemann does not teach or suggest a bi-conical tip as provided by the currently claimed invention.

Finally, Hagemann teaches away from the device of claim 1 and the device used in claim 12. Claim 1 clearly indicates that the current invention carries a cutting edge running from the bi-conical tip to the upper end of the working length on each instrument. In contrast, Hagemann



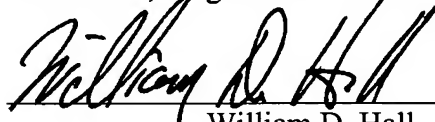
teaches away from the current invention by specifically limiting the cutting surface on instruments 2 and 3 to the lower portion of the working length (12.2 and 12.3 respectively in Figs. 2 and 6).

Therefore, in view of the distinct differences between the invention of claims 1 and 12, the Applicant respectfully submits that Hagemann does not anticipate the pending claims. Reconsideration and withdrawal of the §102 rejection of the remaining claims is respectfully requested.

The remaining dependent claims depend directly or indirectly from claims 1 and 12. As such they contain all the limitations therein. Accordingly, the remaining dependent claims are also distinguishable over Hagemann and believed to be in allowable condition.

Therefore, in view of the foregoing amendments to the claims, the Applicant respectfully requests that the Examiner reconsider and withdraw the rejections of the pending claims. A formal Notice of Allowance of Claims 1-2, 4-7, 12-13, 16-18 and 21-22 is earnestly solicited. Should the Examiner care to discuss any aspect of the foregoing response in greater detail, the undersigned attorney would welcome a telephone call.

I hereby certify that this correspondence is being deposited in the United States Postal Service as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.


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Respectfully submitted,


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